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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,756	11/27/2001	Heinz Epping	GK-EIS-1041 /500593.20033	2148

26418 7590 09/22/2003

REED SMITH, LLP
ATTN: PATENT RECORDS DEPARTMENT
599 LEXINGTON AVENUE, 29TH FLOOR
NEW YORK, NY 10022-7650

EXAMINER
HARVEY, DIONNE

ART UNIT	PAPER NUMBER
2643	15

DATE MAILED: 09/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/830,756	Epping et al
Examiner	**Art Unit**
Dionne Harvey	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 22-41 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 22-41 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 22 recites that the sound inlet has an acoustic resistance which is less than the acoustic resistance of the damping element. The Substitute Specification filed 6/3/03 in paper no 11, fails to provide disclosure which would enable one of ordinary skill in the art to construct the invention such that the sound inlet has an acoustic resistance which is less than the acoustic resistance of the damping element.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 22-28,30,31,32,34,35,37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzawa (US 5,148,492).

Regarding claim 22, in figure 1, Uzawa teaches a microphone comprising a diaphragm(1) having a first surface, being in the direction of the ambient air, and second surface being in the direction of the microphone housing; the first surface oriented toward the sound source (originating from ambient) and the second surface which is at least partially acoustically separated from the first surface via casing 4, the second surface facing away from the sound source; at least one slot shaped sound inlet (8) through which sound waves pass to the second surface forming an acoustic inductance so that the passed sound waves have a delay; and at least one damping element (see acoustic resistive agent 9 and supporting passage). And as best understood with regard to the U.S.C. 112 1st paragraph rejection, above, Uzawa appears to teach said sound inlet having an acoustic resistance being less than the damping element.

Regarding claim 23, Uzawa teaches that the damping element is formed by a sound passage provided with acoustic damping material(9) and which connects a cavity. The center cup-shaped casing member(4) in combination with horizontally disposed acoustic resistive member(9) define a cavity which is in communication with sound inlet(8).

Regarding claim 24, Uzawa teaches that the sound outlets have a substantially rectangular cross section.

Regarding claim 25, Uzawa teaches that the height of the inlet is less than the length and that sound flow is along a longitudinal direction and, the length of the inlet is less than the width.

Regarding claim 26, Uzawa appears to teaches that the width of the sound inlet corresponds to the periphery of the microphone.

Regarding claim 27, Uzawa appears to teaches that the sound inlet is interrupted only by support portions.

Regarding claim 28, Uzawa teaches that the peripheral edge of the diaphragm (1) is "fixed" to casing member (4) which has been interpreted as the diaphragm fixing portion.

Regarding claim 30, Uzawa teaches that the diaphragm fixing portion has an orifice (the orifice is defined by the top of sound inlet-8;) which leads from the rear side of the microphone which faces away from the sound source to the second diaphragm surface and which is substantially closed by a sealing element(9).

Regarding Claim 31, Uzawa teaches that the sealing element is a porous material, as is well understood in the art.

Regarding Claim 32, Uzawa does not specifically teach that the sealing element is sintered. However, absent support in the applicant's specification that the specific use of a sintered material for the sealing element provides an improved seal, it would have been obvious for one of ordinary skill in the art at the time of the invention use any variety of porous materials which would allow the passage of sound to the rear surface of the diaphragm.

Regarding Claim 34, Uzawa teaches a substantially annular sealing element.

Regarding Claim 35, Uzawa teaches that the sealing element is disposed within a groove (see surrounding passage) in the fixing portion.

Regarding Claim 37, Uzawa teaches that the sealing element(9) is in one piece.

Regarding Claim 38, Uzawa teaches that the sound inlet(8) is disposed between the diaphragm fixing portion and a holding portion. Given the broadly claimed "holding portion", the Examiner as interpreted the bobbin and voice coil member as the "holding portion" of the claim.

3. Claims 29,33,36 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzawa (US 5,148,492) in view of Chang (US 5,781,644).

Regarding claim 29, Uzawa does not specifically teach a closure element arranged in front of a sound duct having an opening which corresponds to the mouth opening of the sound passage. In figure 4, Chang teaches a closure element (80) arranged in front of a sound duct having an opening(shown) which corresponds to the mouth opening of the sound passage. It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a rear cap for the sound passage of Uzawa, for the purpose of isolating external vibrations and reducing the occurance of static noise.

Regarding Claims 33 and 36, Uzawa teaches a slot-shaped inlet having a sealing member. It is understood that depending upon where the damping material is positioned within the adjacent passage, i.e., closer or farther away from the inlet, the thickness of the sealing element would

effectively determine the length of the sound inlet, as claimed. Uzawa does not teach that the cross section of the slot-shaped inlet is formed by a recess in the diaphragm fixing portion. Chang teaches a diaphragm fixing portion(80) having a slot-shaped inlet(72) which is substantially formed by a recess in the diaphragm fixing portion. It would have been obvious for one of ordinary skill in the art at the time of the invention to construct air passages for the flow of air to the rear surface of the diaphragm by forming a recess, like that of Chang, OR a protrusion, like that of Uzawa, as both successfully function to pass sound and air pressure to the diaphragm.

Regarding Claim 39, Uzawa does not specifically teach that the holding portion is a diaphragm ring. Shown, but not labeled in figure 4, Chang teaches a diaphragm ring connected to the diaphragm. It would have been obvious for one of ordinary skill in the art at the time of the invention to use a diaphragm ring, for the purpose of resiliently suspending the diaphragm in the microphone housing.

Regarding Claim 40, Chang teaches that the sound inlet may be formed by part of a recess in the diaphragm ring.

Regarding Claim 41, Chang teaches that the sound inlet(72) is formed between the diaphragm fixing portion(80) and the casing portion(10)

Response to Arguments

4. Applicant's arguments filed 7/10/03 have been fully considered but they are not persuasive.

In response to applicant's argument that the Uzawa References Fails to Show That the Sound waves Pass Through the at Least One Slot-shapes Sound Inlet Before Passing Through the Acoustic Resistance, certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e.,) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the Uzawa References Fails to Show a Slot Being Defined by Height, Length and Width, and Merely Shows a Hole: The applicant has failed clearly to define the height length and width of the slots claimed. Furthermore, Uzawa need not specifically refer to holes (8) as "slots". The illustrations of element (8) in the Uzawa reference are sufficient for teaching a "narrow opening or groove" which is understood as a "slot" according to *Merriam Webster's Collegiate Dictionary, 1997.*

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statements for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111. The examiner can normally be reaches on Monday through Friday from 8:30am to 6:00pm.

Any responses to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

(703) 308-6306, for formal communications for entry

Or:

(703) 308-6296, for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor(Receptionist)

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (703) 305-4708.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111.

D.H.

September 15, 2003

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600